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Macroglial diversity and its effect on myelination

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Stellingen

1. The finding that remyelination is more effective in grey matter than white matter tissue in both human MS and rodent remyelination models indicates an evolutionary conserved and robust background¹⁻⁶.
2. The contribution of the tight intertwining of lipid homeostasis and the immune system in astrocytes to MS pathology is currently underestimated⁷.
3. The identification of an immunological phenotype in MS oligodendroglial cells based on immunohistochemistry, while this subclass is not apparent in transcriptomic studies, indicates that single cell proteomic studies might be more valuable compared to transcriptomic studies^{8,9}.
4. To prevent “p-hacking” and the publication of significant -but clinically irrelevant- data, science should convert the archaic probability system to confidence-intervals and include relevant effect sizes¹⁰.
5. Improved understanding of regional heterogeneity in macroglial cells will contribute to MS research as a whole, and may open therapeutic avenues aimed at enhancing remyelination. (this thesis)
6. When studying individual parts of a vacuum cleaner, one will not obtain understanding of the mechanism of suction. Likewise, a pitfall of cell biology research is over-specification, thereby overlooking the bigger picture.
7. Although the study of single cell types is definitely interesting and relevant for the understanding of cell functioning, the study of interactions between different cell types is at least as important for the understanding of pathology.
8. Astrocytes are the real stars of the central nervous system.

“What’s so great about discovery? It’s a violent, penetrative act that scars whatever it explores.” - Ian Malcolm, Jurassic Park

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